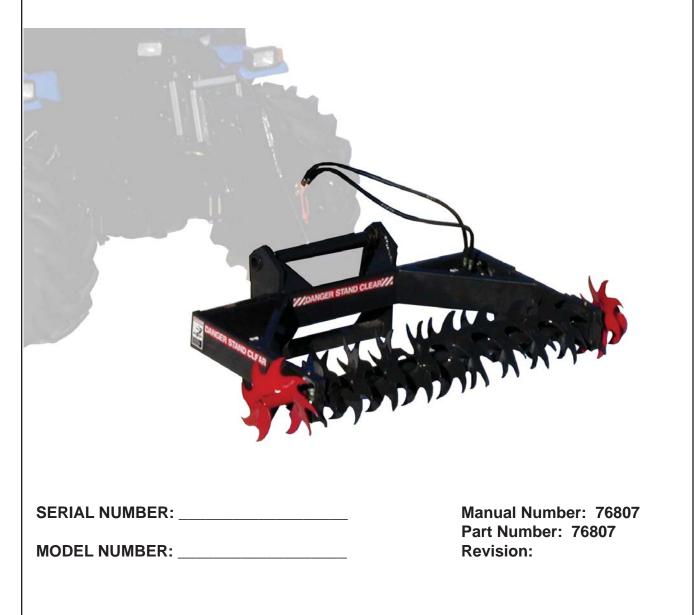


# **OPERATOR'S & PARTS** MANUAL



PALADIN LIGHT CONSTRUCTION



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# FOREWORD

Although The Major has various silage defacers available, we are continually designing new sizes and mountings. If your combination is not listed, please contact the factory. We have extensive mounting information available to generate the product you need.

Below is a listing of the silage defacers that are currently available. See the "Parts" section of this manual for the assemblies "Shown".

DESCRIPTION & MOUNT		ASSEMBLY #			
BOBCAT					
Silage Defacer for Telehandler - Bobcat	(Shown)	12894			
CATERPILLAR					
Silage Defacer for Telehandler, Tractor Loader, or Wheel Loader - CAT IT/TH	(Shown)	12425			
Silage Defacer for Wheel Loader - CAT IT/TH Only 6 Foot Extension	(Shown)	12805			
JCB					
Silage Defacer for Telehandler & Tractor Loader - JCB Q-Fit	(Shown)	12364			
JOHN DEERE					
Silage Defacer for Wheel Loader - John Deere 444H With JRB Coupler	Shown)	12745			
Silage Defacer for Wheel Loader - John Deere 244J Only 4 Foot Extension	(Shown)	12871			
MANITOU					
Silage Defacer for Telehandler - Manitou	(Shown)	12686			
NEW HOLLAND					
Silage Defacer for Telehandler & Tractor Loader - New Holland Q-Fit	(Shown)	12364			

# PREFACE

## **GENERAL COMMENTS**

Congratulations on the purchase of your new attachment! This product was carefully designed and manufactured to give you many years of dependable service. Only minor maintenance, such as cleaning and lubricating, is required to keep it in top working condition. Be sure to observe all maintenance procedures and safety precautions in this manual and on any safety decals located on the product, and on any equipment on which the attachment is mounted. Also, check load charts before operating the attachment.

This manual has been designed to help you do a better, safer job. Read this manual carefully and become familiar with its contents.

WARNING! Never let anyone operate this unit without reading the "Safety Precautions" and "Operating Instructions" sections of this manual.



Always choose hard, level ground to park the vehicle on, and set the brake so the unit cannot roll.

Unless noted otherwise, right and left sides are determined from the operator's control position when facing the attachment.

NOTE: The illustrations and data used in this manual were current, according to the information available to us at the time of printing. However, we reserve the right to redesign and change the attachment as may be necessary, without notification.

#### **BEFORE OPERATION**

The primary responsibility for safety with this equipment falls to the operator. Make sure the equipment is operated only by trained individuals who have read and understand this manual. If there is any portion of this manual or function that you do not understand, contact your local authorized dealer or the manufacturer.

#### SAFETY ALERT SYMBOL



This is the "Safety Alert Symbol" used by this industry. This symbol is used to warn of possible injury. Be sure to read all warnings carefully. They are included for your safety and for the safety of others working with you.

#### SERVICE

When servicing your product, remember to use only manufacturer replacement parts. Substitute parts may not meet the standards required for safe, dependable operation.

To facilitate parts ordering, record the model and serial number of your unit in the space provided on the cover of this manual. This information may be obtained from the identification plate located on the product.

The parts department needs this information to ensure that you receive the correct parts for your specific model.

# SAFETY STATEMENTS



THIS SYMBOL BY ITSELF OR WITH A WARNING WORD THROUGHOUT THIS MAN-UAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY OR THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.

**DANGER** THIS SIGNAL WORD IS USED WHERE SERIOUS INJURY OR DEATH WILL RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

**WARNING** THIS SIGNAL WORD IS USED WHERE SERIOUS INJURY OR DEATH COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

**CAUTION** THIS SIGNAL WORD IS USED WHERE MINOR INJURY COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

**NOTICE** NOTICE INDICATES A PROPERTY DAMAGE MESSAGE.

# **GENERAL SAFETY PRECAUTIONS**



#### G! READ MANUAL PRIOR TO INSTALLATION

Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operators and maintenance personnel should read this manual, as well as all manuals related to this equipment and the prime mover thoroughly before beginning installation, operation, or maintenance. FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL AND THE PRIME MOVER'S MANUAL(S).



#### **READ AND UNDERSTAND ALL SAFETY STATEMENTS**

Read all safety decals and safety statements in all manuals prior to operating or working on this equipment. Know and obey all OSHA regulations, local laws, and other professional guidelines for your operation. Know and follow good work practices when assembling, maintaining, repairing, mounting, removing, or operating this equipment.



#### **KNOW YOUR EQUIPMENT**

Know your equipment's capabilities, dimensions, and operations before operating. Visually inspect your equipment before you start, and never operate equipment that is not in proper working order with all safety devices intact. Check all hardware to ensure it is tight. Make certain that all locking pins, latches, and connection devices are properly installed and secured. Remove and replace any damaged, fatigued, or excessively worn parts. Make certain all safety decals are in place and are legible. Keep decals clean, and replace them if they become worn or hard to read.

# **GENERAL SAFETY PRECAUTIONS**



#### **G! PROTECT AGAINST FLYING DEBRIS**

Always wear proper safety glasses, goggles, or a face shield when driving pins in or out, or when any operation causes dust, flying debris, or any other hazardous material.



#### LOWER OR SUPPORT RAISED EQUIPMENT

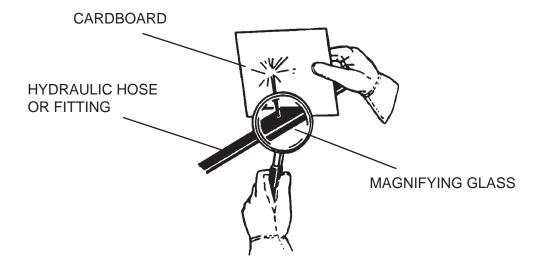
Do not work under raised booms without supporting them. Do not use support material made of concrete blocks, logs, buckets, barrels, or any other material that could suddenly collapse or shift positions. Make sure support material is solid, not decayed, warped, twisted, or tapered. Lower booms to ground level or on blocks. Lower booms and attachments to the ground before leaving the cab or operator's station.



#### G! USE CARE WITH HYDRAULIC FLUID PRESSURE

Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Before connecting or disconnecting hydraulic hoses, read your prime mover's operator's manual for detailed instructions on connecting and disconnecting hydraulic hoses or fittings.

- Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.
- If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him or her to research it immediately to determine proper treatment.
- Wear safety glasses, protective clothing, and use a piece of cardboard or wood when searching for hydraulic leaks. **DO NOT USE YOUR HANDS! SEE ILLUS-TRATION.**



# **GENERAL SAFETY PRECAUTIONS**

#### WARNING! DO NOT MODIFY MACHINE OR ATTACHMENTS



Modifications may weaken the integrity of the attachment and may impair the function, safety, life, and performance of the attachment. When making repairs, use only the manufacturer's genuine parts, following authorized instructions. Other parts may be substandard in fit and quality. Never modify any ROPS (Roll Over Protection Structure) or FOPS (Falling Object Protective Structure) equipment or device. Any modifications must be authorized in writing by the manufacturer.

#### WARNING!



- Do not wear loose clothing or any accessories that can catch in moving parts. If you have long hair, cover or secure it so that it does not become entangled in the equipment.
- Work on a level surface in a well-lit area.
- Use properly grounded electrical outlets and tools.

SAFELY MAINTAIN AND REPAIR EQUIPMENT

- Use the correct tools for the job at hand. Make sure they are in good condition for the task required.
- Wear the protective equipment specified by the tool manufacturer.



#### SAFELY OPERATE EQUIPMENT

Do not operate equipment until you are completely trained by a qualified operator in how to use the controls, know its capabilities, dimensions, and all safety requirements. See your machine's manual for these instructions.

- Keep all step plates, grab bars, pedals, and controls free of dirt, grease, debris, and oil.
- Never allow anyone to be around the equipment when it is operating.
- Do not allow riders on the attachment or the prime mover.
- Do not operate the equipment from anywhere other than the correct operator's position.
- Never leave equipment unattended with the engine running, or with this attachment in a raised position.
- Do not alter or remove any safety feature from the prime mover or this attachment.
- Know your work site safety rules as well as traffic rules and flow. When in doubt on any safety issue, contact your supervisor or safety coordinator for an explanation.

# **EQUIPMENT SAFETY PRECAUTIONS**

#### WARNING!



#### **5! KNOW WHERE UTILITIES ARE**

Observe overhead electrical and other utility lines. Be sure equipment will clear them. When digging, call your local utilities for location of buried utility lines, gas, water, and sewer, as well as any other hazard you may encounter.



## **OPERATING THE SILAGE DEFACER**

- Clear the work area of all bystanders before operation!
- Operate only from the operator's station with seatbelt properly attached.
- Do not exceed the lifting capacity of your prime mover and attachment. Always observe lift capacity limits listed in machine specifications or on load charts furnished with the prime mover.
- Reduce speed when driving over rough terrain, on a slope, or turning, to avoid overturning the vehicle.
- Never use the attachment for a work platform or personnel carrier.
- An operator must not use drugs or alcohol, which can change his or her alertness or coordination. An operator taking prescription or over-the-counter drugs should seek medical advice on whether or not he or she can safely operate equipment.
- Always check locking pins before operating any attachment.
- Before exiting the prime mover, lower the attachment to the ground, apply the brakes, turn off the prime mover's engine, and remove the key.



## TRANSPORTING THE SILAGE DEFACER

- Travel only with the attachment in a safe transport position to prevent uncontrolled movement. Drive slowly over rough ground, and on slopes.
- Allow for the added length of the silage defacer when transporting, so as not to catch the unit on obstables.
- When driving on public roads, use safety lights, reflectors, Slow Moving Vehicle signs, etc. to prevent accidents. Check local government regulations that may affect you.
- Do not drive close to ditches, excavations, etc., as a cave-in could result.
- Do not smoke when refueling the prime mover. Allow room in the gas tank for expansion. Wipe up any spilled fuel, and secure cap tightly, when done.



#### MAINTAINING THE SILAGE DEFACER

- Before performing maintenance, lower the attachment to the ground, apply the brakes, turn off the engine, and remove the key.
- Never perform any work on the equipment unless you are authorized and qualified to do so. Always read the operator's and service manual(s) before any repair is made. After completing maintenance or repair, check for correct functioning of the attachment. If not functioning properly, always attach a "DO NOT OPERATE" tag to the machine until all problems are corrected.
- Worn, damaged, or illegible safety decals must be replaced. New safety decals can be ordered from the manufacturer.
- Never make hydraulic repairs while the system is under pressure. Serious personal injury or death could result.
- Never work under a raised attachment.

# **INSTALLATION AND OPERATION**

## ATTACHING AND DETACHING SILAGE DEFACER

Please see your vehicle operator's manual for instructions on attaching and detaching your equipment.



To prevent serious personal injury or death, only attach equipment that is designed for your prime mover.

Specified lift capacities must not be exceeded, otherwise machine stability will not be sufficient. Always observe lift capacity limits listed in machine specifications.

## **OPERATING SILAGE DEFACER**

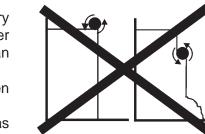
#### • Read all Safety Precautions before operating your new attachment.

The silage defacer was designed to loosen haylage and silage from a tightly compacted bunker. It maintains a smooth, compacted bunker-face for reduced spoil, and the open design allows the operator to see the bunker face and the surrounding work area.

There are guides on the end of each arm to limit the depth of each cut. The guides can be easily adjusted by loosening the bolts and sliding the guide in or out until the desired cutting depth is reached.

- 1. Clear the area of all bystanders, and engage the defacer only from the operator's station.
- Position the defacer at the top of the bunker and engage the auxiliary hydraulics. When the defacer has reached full speed, slowly lower into the silage at the desired cutting depth. Do not deface more than 1"-3" of material on each pass, depending on the material.
- 3. Keep defacer level while it is lowering, to help maintain an even cut.
- 4. Repeat steps #1 through #3 until the desired amount of silage has been obtained.

#### Silage Defacer Operating Tips



PROPER OPERATION

(1"-3" MATERIAL PER PASS)

**IMPROPER OPERATION** 

- 1. For best results do not force the defacer down through the material, but allow gravity and the removal of material to determine the downward speed.
- 2. To prevent attachment and property damage, avoid direct contact of tines with bunker walls and floor.
- 3. Due to silage piling up on the ground, to obtain a clean cut of the entire bunker face, you may wish to first cut the bottom 4 feet, and then reposition the defacer at the top, and finish the downward cut.
- 4. A 2" depth of cut is recommended to avoid stalling, and to obtain a clean face.

#### DANGER! ROTATING HAZARD! To prevent serious injury or death:

- Clear area of all bystanders.
- Operate the attachment only when properly seated at the operator's station. Before exiting the prime mover, lower the defacer to the ground, turn off the prime mover's engine, remove the key and apply the brakes.
- Do not leave operator's station until all movement has stopped.

# INSTALLATION AND OPERATION TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Excessive noise.	1. Bearings worn and "squeaking".	Check and replace, as necessary.
	2. Cutters bent.	Repair or replace.
Decreased performance.	1. Chain loose.	See "Troubleshooting Loose Chain".
	2. Cutters damaged.	Check blades and repair or replace, as necessary. See "Operating Silage Defacer" in the "Installation and Op- eration" section of this manual.
Cutters not turning.	1. Chain broken.	Repair or replace.
	2. Drive motor failure.	Repair or replace.
	3. Drive motor key broken.	Replace key.
	4. Sprocket damaged.	Replace sprocket.
r		
Loose Chain.	1. Cam lock not tight.	• Re-tension chain, and tighten mount- ing bolts on cam lock.
	2. Sprocket, bearing, or chain worn.	Check, and replace any worn parts.
Excessive oil temperature.	1. Hydraulic oil level too low.	Refer to skid-steer's owners manual.
	2. Obstruction in hydraulic lines.	<ul> <li>Remove obstruction and replace, if necessary.</li> </ul>
	3. Couplers not engaged correctly.	Engage couplers.
	4. Hydraulic system overloaded, and system relief open.	Reduce load.

# **MAINTENANCE & SERVICE**

## **GENERAL INFORMATION**

Regular maintenance is the key to long equipment life and safe operation. Maintenance requirements have been kept to an absolute minimum. However, it is very important that these maintenance functions be performed as described in this section.

# WARNING!

#### DO NOT OPERATE THE SILAGE DEFACER DURING ANY MAINTENANCE, OR WHILE THE TOP CHAIN COVER IS **REMOVED**.

## DAILY

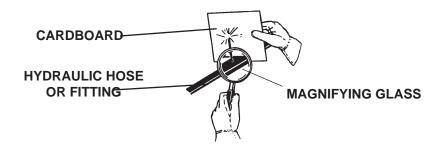
- Check all bolts and nuts for tightness.
- Replace any missing bolts or nuts with approved replacement parts.
- Check hydraulic system for hydraulic oil leaks. See procedure below.
- Visually inspect the machine for worn parts or cracked welds, and repair, as necessary.



WARNING! Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.

> Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.

> If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him or her to research it immediately to determine proper treatment.



IMPORTANT: When replacing parts, use only factory approved replacement parts. Manufacturer will not claim responsibility for use of unapproved parts or accessories and/or other damages as a result of their use.

# **MAINTENANCE & SERVICE**

## MONTHLY OR EVERY 40 HOURS OF OPERATION

- Check all bearings for tightness. Tighten or replace, as needed.
- Clean equipment of dirt, oil, grease, etc. This will assist you in making a visual inspection, and help avoid overlooking worn or damaged components.
- Adjust the shoe weldments on the silage defacer so material is removed, but the shoe is never less than 1/2" shorter than the blades.
- Adjust and lubricate the drive chain. (See "Chain Adjustment" below.) To lubricate the drive chain: Remove the top chain cover and spray a chain lubricant along the top of the upper and lower portion of the drive chain.

#### **CHAIN ADJUSTMENT**

We recommend adjusting the chain on all of the silage defacers after the initial 4 hours, and then monthly thereafter.

**To Adjust the Chain:** Remove the top chain cover and loosen the two bolts on the motor mounting plate, and the one bolt on the cam lock. Insert a 1/2" ratchet into the cam lock, and rotate until the chain is tight. A properly adjusted chain will have a minimal amount of chain deflection. Over-tensioning will cause premature wear.

# *NOTE:* If all of the cam lock adjustment is used and the chain and sprocket are still serviceable, you can remove a "half link" from the chain at the master link location.

## LUBRICATION

The only other lubrication your attachment needs is the greasing of the flangette and bearing set. A grease fitting has been installed to facilitate this task. We recommended that all grease fittings be lubricated after the initial 8 hours of operation, and then after every 40 hours of use thereafter.

## DECAL IDENTIFICATION AND REPLACEMENT

Decal placement and identification for all of the attachments can be found on the parts diagrams and lists located at the back of this manual. The decals are identified by their part numbers with reductions of the actual decals located on the page. Use this information to order replacements for missing, illegible or damaged deals. When replacing parts with safety signs attached, the safety sign must also be replaced. All Safety Decals are free of charge. Contact your dealer for replacements.

#### **REPLACING SAFETY SIGNS:**

- 1. Clean the area of application with nonflammable solvent.
- 2. Wash the same area with soap and water, and then allow the surface to fully dry.
- 3. Remove the backing from the safety sign, exposing the adhesive surface.
- 4. Apply the safety sign to the location shown in the parts diagram, and smooth out bubbles.

#### Helpful Hints:

- 1. Decals adhere to a warm surface better than a cold surface.
- 2. Applying heat (from a hair dryer) will greatly improve your ability to remove a damaged decal before preparing the surface for installation of a new one.

# **BOLT TORQUE**

#### BOLT TORQUE SPECIFICATIONS

#### **GENERAL TORQUE SPECIFICATION TABLE**

Use the following torques when special torques are not given. These values apply to fasteners as received from suppliers, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads. Remember to always use grade five or better when replacing bolts.

#### IMPORTANT: On all PLATED GRADE 8 bolts, reduce torque 15% from listed bolt torque specification.

	Frade No.			2				5			8*		
marks as p	nufacturing			$\bigcirc$			$\langle \rangle$	$\bigcirc$	$\overline{}$	$\bigcirc$	$\langle \! \ast \rangle$	$\langle \cdot \rangle$	
			TOP	QUE			то	RQUE	1		TOR	QUE	
Во	It Size	Pounds	s Feet	Newton	Meters	Pound	s Feet	Newton	-Meters	Pound	s Feet	Newton-	Meters
Inches	Millimeters	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.35	5	6	7	8	9	11	12	15	12	15	16	20
5/16	7.94	10	12	14	16	17	20.5	23	28	24	29	33	39
3/8	9.53	20	23	27	31	35	42	48	57	45	54	61	73
7/16	11.11	30	35	41	47	54	64	73	87	70	84	95	114
1/2	12.70	45	52	61	70	80	96	109	130	110	132	149	179
9/16	14.29	65	75	88	102	110	132	149	179	160	192	217	260
5/8	15.88	95	105	129	142	150	180	203	244	220	264	298	358
3/4	19.05	150	185	203	251	270	324	366	439	380	456	515	618
7/8	22.23	160	200	217	271	400	480	542	651	600	720	814	976
1	25.40	250	300	339	406	580	696	787	944	900	1080	1220	1464
1-1/8	25.58	-	-	-	-	800	880	1085	1193	1280	1440	1736	1953
1-1/4	31.75	-	-	-	-	1120	1240	1519	1681	1820	2000	2468	2712
1-3/8	34.93	-	-	-	-	1460	1680	1980	2278	2380	2720	3227	3688
1-1/2	38.10	-	-	-	-	1940	2200	2631	2983	3160	3560	4285	4827
									* Thicl	Nuts must	t be used v	with Grade	8 bolts

#### METRIC BOLT TORQUE SPECIFICATIONS

					<b>(</b> 8.8	∠ \	10.9	
			Coarse Thread	1		Fine Thread		
Size of Screw	Grade No.	Ptich (mm)	Pounds Feet	Newton-Meters	Pitch (mm)	Pounds Feet	Newton-Meters	
	5.6		3.6-5.8	4.9-7.9		-	-	
M6	8.8	1.0	5.84	7.9-12.7	-	-	-	
	10.9		7.2-10	9.8-13.6		-	-	
	5.6		7.2-14	9.8-19		12-17	16.3-23	
M8	8.8	1.25	17-22	23-29.8	1.0	19-27	25.7-36.6	
	10.9		20-26	27.1-35.2		22-31	29.8-42	
	5.6		20-25	27.1-33.9		20-29	27.1-39.3	
M10	8.8	1.5	34-40	46.1-54.2	1.25	35-47	47.4-63.7	
ľ	10.9		38-46	51.5-62.3		40-52	54.2-70.5	
	5.6		28-34	37.9-46.1	1.25	31-41	42-55.6	
M12	M12 8.8	1.75	51-59	69.1-79.9		56-68	75.9-92.1	
	10.9		57-66	77.2-89.4		62-75	84-101.6	
	5.6		49-56	66.4-75.9		52-64	70.5-86.7	
M14	8.8	2.0	81-93	109.8-126	1.5	90-106	122-143.6	
ľ	10.9		96-109	130.1-147.7		107-124	145-168	
	5.6		67-77	90.8-104.3		69-83	93.5-112.5	
M16	8.8	2.0	116-130	157.2-176.2	1.5	120-138	162.6-187	
ľ	10.9		129-145	174.8-196.5		140-158	189.7-214.1	
	5.6		88-100	119.2-136		100-117	136-158.5	
M18	8.8	2.0	150-168	203.3-227.6	1.5	177-199	239.8-269.6	
	10.9	1	175-194	237.1-262.9		202-231	273.7-313	
	5.6		108-130	146.3-176.2		132-150	178.9-203.3	
M20	8.8	2.5	186-205	252-277.8	1.5	206-242	279.1-327.9	
ľ	10.9	1	213-249	288.6-337.4		246-289	333.3-391.6	

# STORAGE

## **GENERAL INFORMATION**

The following storage procedure will help you to keep your attachment in top condition. It will also help you get off to a good start the next time your equipment is needed. We therefore strongly recommend that you take the extra time to follow these procedures whenever your attachment will not be used for an extended period of time.

#### **PREPARATION FOR STORAGE**

- 1. Clean the attachment thoroughly, removing all mud, dirt, and grease.
- 2. Inspect for visible signs of wear, breakage, or damage. Order any parts required, and make the necessary repairs, to avoid delays when starting next season.
- 3. Tighten all loose nuts, capscrews, and hydraulic connections.
- 4. Lubricate all grease fittings.
- 5. Connect the hydraulic couplers together, or install covers, to protect the hydraulic system from contaminates.
- 6. Touch up all unpainted and exposed areas with paint, to prevent rust.
- 7. Replace decals, if damaged or in unreadable condition.
- 8. Store the attachment in a dry and protected place, with a cover, if possible. Leaving the attachment outside will materially shorten its life.

#### **REMOVING FROM STORAGE**

- 1. Remove all protective coverings.
- 2. Check hydraulic hoses for deterioration, and replace if necessary.

# LIMITED WARRANTY

All new Major products are warranted to be free from defects in materials or workmanship which may cause failure under normal usage and service, when used for the purpose intended.

In the event of failure within twelve (12) months from initial retail sale, lease or rental date (excluding cable, ground engaging parts such as sprockets, digging chain, bearings, teeth, tamping and demolition heads, blade cutting edges, pilot bits, auger teeth, auger heads & broom bristles), if after examination, The Major determines failure was due to defective material and/or workmanship, parts will be repaired or replaced. The Major may request defective part or parts be returned prepaid to them for inspection at their place of business at Delhi, lowa, or to a location specified by The Major.

Any claims under this warranty must be made within fifteen (15) days after the Buyer learns of the facts upon which such claim is based. All claims not made in writing and received by The Major within the time period specified above shall be deemed waived.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, AND THERE ARE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL THE MAJOR BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGE.

THE MAJOR'S LIABILITY FOR ANY AND ALL LOSSES AND DAMAGES TO BUY-ER, RESULTING FROM ANY CAUSE WHATSOEVER, INCLUDING THE MAJOR'S NEG-LIGENCE, IRRESPECTIVE OF WHETHER SUCH DEFECTS ARE DISCOVERABLE OR LATENT, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PARTICULAR PRODUCTS WITH RESPECT TO WHICH LOSSES OR DAMAGES ARE CLAIMED, OR, AT THE ELECTION OF THE MAJOR, THE REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED PRODUCTS.

# PARTS

The following section contains detailed diagrams and parts lists which include your attachment. Please use these diagrams and parts lists to locate replacement parts, prior to contacting the parts department.

When servicing your attachment, remember to use only original manufacturer replacement parts. Substitute parts may not meet the standards required for safe, dependable operation.

To facilitate parts ordering, have the model and serial number of your product ready, to ensure that you receive the correct parts for your specific attachment.

The model and serial number for your attachment should be recorded in the space provided on the cover of this manual. This information may be obtained from the serial number identification plate located on your attachment. **See the parts diagram for your attachment for the location.** 

NOTE: Most daily and emergency orders received by 2:00 P.M. will be shipped the same day received, with "Emergency-Machine-Down" orders receiving first priority.



PALADIN LIGHT CONSTRUCTION

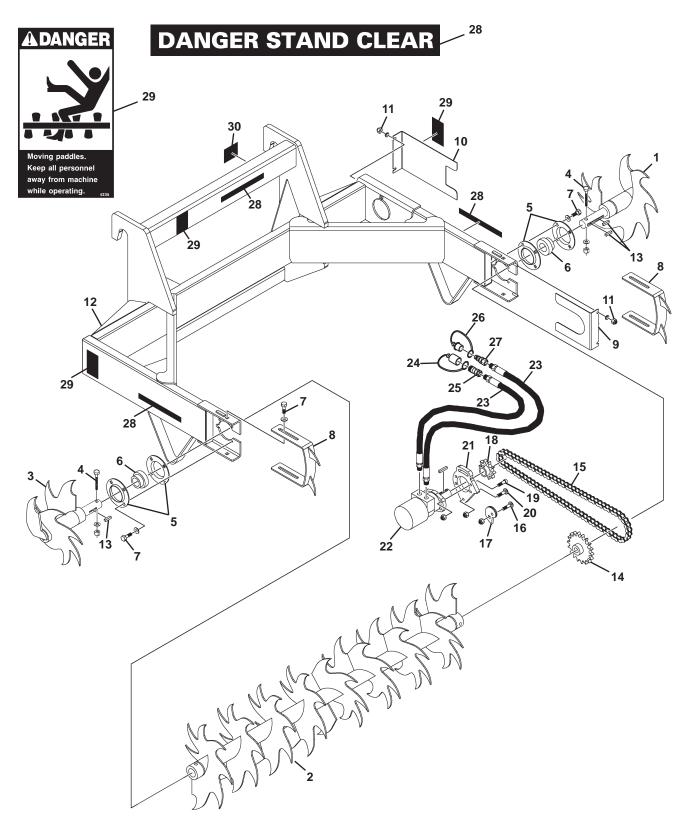
PARTS DEPARTMENT

(563) 922-2981 (800) 922-2981

We Encourage Fax Orders (563) 922-2593

ASSEMBLY #12364

DIAGRAM 1 OF 2



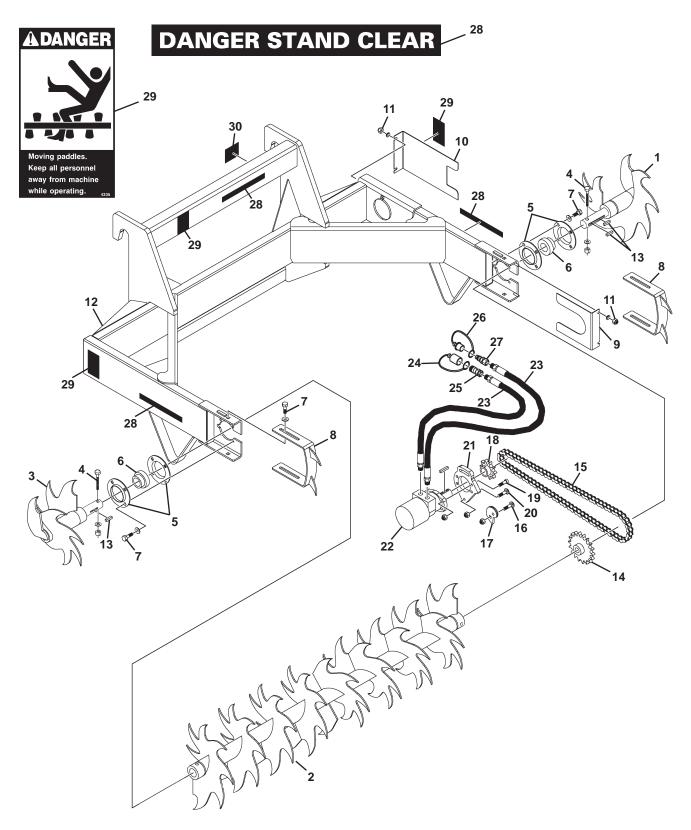
ASSEMBLY #12364

LIST 1 OF 2

<u>ITEM</u>	<u>QTY.</u>	PART NO.	DESCRIPTION
1	1	105447	Blade, Left End
2	1	105448	Blade, Center
3	1	105449	Blade, Right End
4	2	1051	.38" UNC x 3.00" Hex Capscrew
	2	1525	.38" Flat Washer
	2	1837	.38" UNC Deformed Lock Nut
5	2	89129	Flangette Set
	-	6616	Replacement Grease Fitting
6	2	89127	Ball Bearing With Collar
	-	1624	Replacement Set Screw
7	12	1088	.50" UNC x 1.00 Hex Capscrew
	12	1646	.50" Hard Flat Washer
8	2	33427	Shoe (Depth Guide)
9	1	15751	Bottom Chain Cover
10	1	32849	Top Chain Cover
11	4	1837	.38" UNC Deformed Lock Nut
	4	1514	.38" Flat Washer
12	1	15249	Silage Defacer Frame
13	3	105482	Square Key, .38" x 1.75"
14	1	32905	Sprocket, 18 Tooth, No. 80
15	1	32906	Drive Chain, No. 80, 73 Pitches
	-	53298	Replacement Master Link
16	1	1872	.50" UNC X 1.50" Carriage Bolt
	1	1790	.50" UNC Serrated Flange Lock Nut
17	1	32848	Cam Lock
18	1	33249	Sprocket, 10 Tooth, No. 80
19	4	22336	.50" UNC x 1.50" Socket Head Capscrew, Grade 8
	4	1228	.50" UNC Hex Nut
20	2 2	1872	.50" UNC X 1.50" Carriage Bolt .50" UNC Serrated Flange Lock Nut
	2	1790	.50 UNC Serraleu Flange LUCK Nul

ASSEMBLY #12364

DIAGRAM 2 OF 2



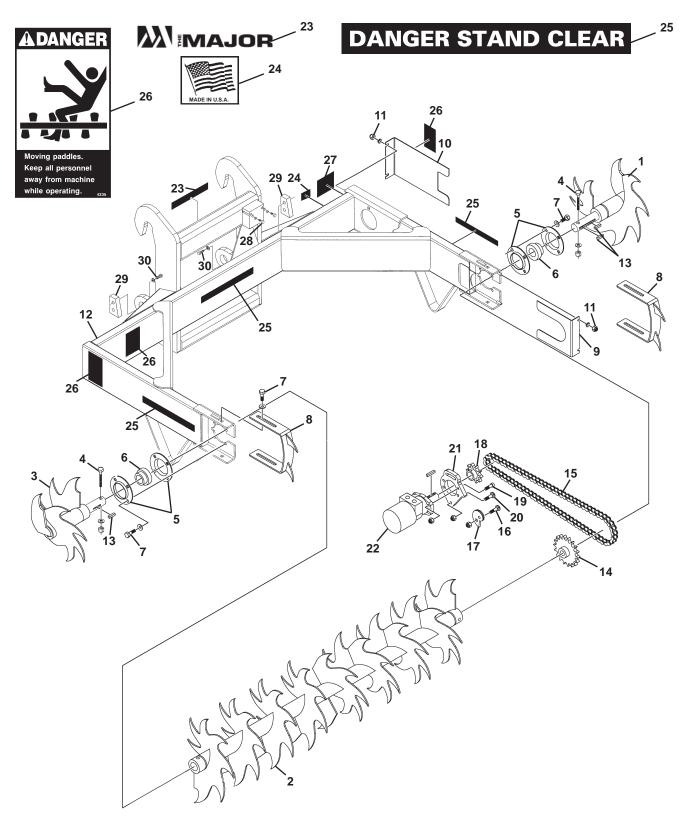
ASSEMBLY #12364

LIST 2 OF 2

<b>ITEM</b>	<u>QTY.</u>	PART NO.	DESCRIPTION
21	1	32847	Motor Mounting Plate
22	1	33200	Motor
	-	5662	Replacement Key
23	2	37975	Hose .62" x 60" 8MBo-10MBo
24	1	32548	Female Coupler Cover
25	1	84928	Female Quick Coupler
26	1	32549	Male Coupler Cover
27	1	84923	Male Quick Coupler
28	3	4105	Danger Stand Clear Decal
29	3	4235	Moving Paddles Danger Decal
30	1		Serial Number Identification Tag Location

ASSEMBLY #12425

DIAGRAM 1 OF 2



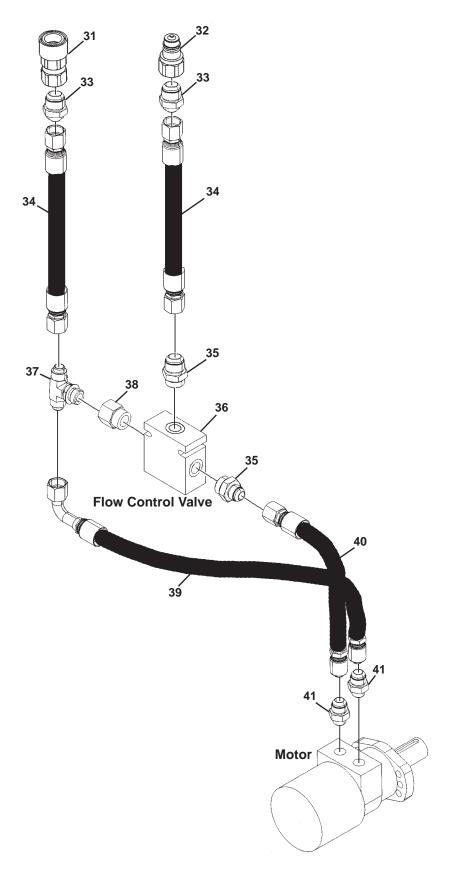
ASSEMBLY #12425

ITEM QTY. PART NO. DESCRIPTION Blade, Left End Blade, Center Blade, Right End .38" UNC x 3.00" Hex Capscrew .38" Flat Washer .38" UNC Deformed Lock Nut Flangette Set -**Replacement Grease Fitting** Ball Bearing With Collar **Replacement Set Screw** -.50" UNC x 1.00 Hex Capscrew .50" Hard Flat Washer Shoe (Depth Guide) Bottom Chain Cover Top Chain Cover .38" UNC Deformed Lock Nut .38" Flat Washer Silage Defacer Frame Square Key, .38" x 1.75" Sprocket, 18 Tooth, No. 80 Drive Chain, No. 80, 73 Pitches **Replacement Master Link** \_ .50" UNC X 1.50" Carriage Bolt .50" UNC Serrated Flange Lock Nut Cam Lock Sprocket, 10 Tooth, No. 80 .50" UNC x 1.50" Socket Head Capscrew, Grade 8 .50" UNC Hex Nut .50" UNC X 1.50" Carriage Bolt .50" UNC Serrated Flange Lock Nut Motor Mounting Plate Motor Replacement Key \_ Major Logo Decal, Medium Made in USA Decal Danger Stand Clear Decal Moving Paddles Danger Decal \_\_\_\_\_ Serial Number Identification Tag Location .31" UNC x 2.50" Hex Capscrew .31" Lock Washer .31" Flat Washer Stop Block .75" UNC x 2.25" Hex Capscrew, Grade 8 .75" Lock Washer

LIST 1 OF 2

ASSEMBLY #12425

DIAGRAM 2 OF 2



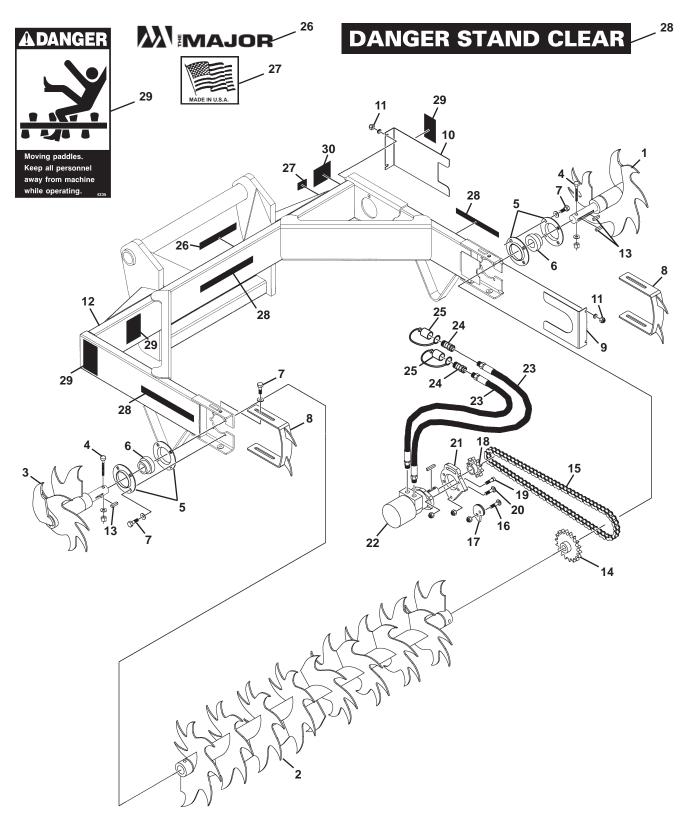
#### SILAGE DEFACER ASSEMBLY #12425

LIST 2 OF 2

<u>ITEM</u>	<u>QTY.</u>	PART NO.	DESCRIPTION
31 32 33 34 35	1 1 2 2 2	22518 22519 3419 37513 3409	Female Quick Coupler Male Quick Coupler Straight Connector, 12MBo-12MJ Hose .75" x 60" 12FJX-12FJX Straight Connector, 16MBo-12MJ
36 37 38 39 40	1 1 1 1	25314 30350 30292 37658 22571	Flow Control Valve Tee Straight Connector, 16MBo-12FBo Hose .75" x 42" 12FJX-12FJX90° Hose .75" x 34" 12FJX-12FJX
41	2	3286	Straight Connector, 10MBo-12MJ

ASSEMBLY #12686

DIAGRAM 1 OF 2



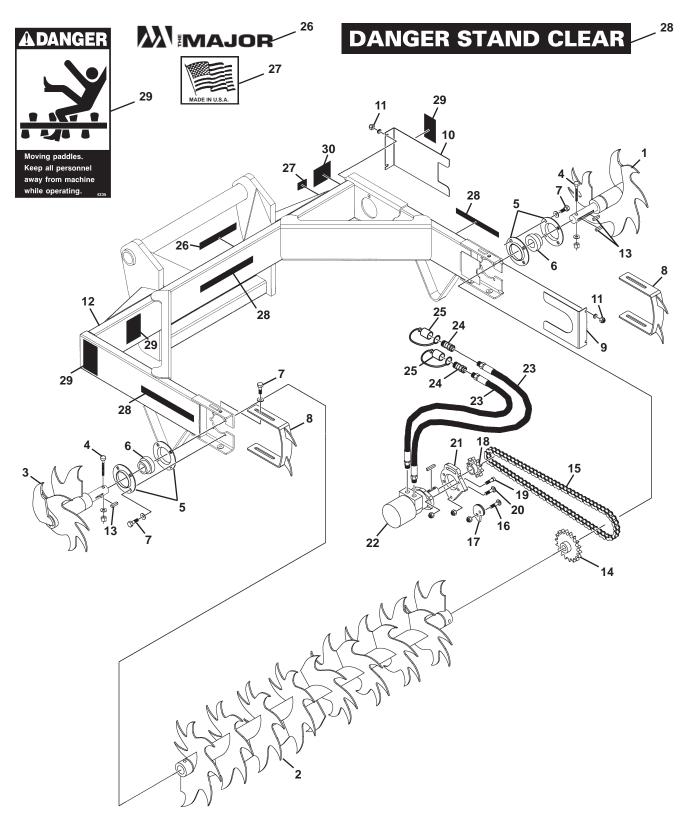
ASSEMBLY #12686

LIST 1 OF 2

<b>ITEM</b>	<u>QTY.</u>	PART NO.	DESCRIPTION
1	1	105447	Blade, Left End
2	1	105448	Blade, Center
3	1	105449	Blade, Right End
4	2	1051	.38" UNC x 3.00" Hex Capscrew
	2	1525	.38" Flat Washer
	2	1837	.38" UNC Deformed Lock Nut
5	2	89129	Flangette Set
	-	6616	Replacement Grease Fitting
6	2	89127	Ball Bearing With Collar
	-	1624	Replacement Set Screw
7	12	1088	.50" UNC x 1.00 Hex Capscrew
	12	1646	.50" Hard Flat Washer
8	2	33427	Shoe (Depth Guide)
9	1	15751	Bottom Chain Cover
10	1	32849	Top Chain Cover
11	4	1837	.38" UNC Deformed Lock Nut
	4	1514	.38" Flat Washer
12	1	100341	Silage Defacer Frame
13	3	105482	Square Key, .38" x 1.75"
14	1	32905	Sprocket, 18 Tooth, No. 80
15	1	32906	Drive Chain, No. 80, 73 Pitches
	-	53298	Replacement Master Link
16	1	1872	.50" UNC X 1.50" Carriage Bolt
	1	1790	.50" UNC Serrated Flange Lock Nut
17	1	32848	Cam Lock
18	1	33249	Sprocket, 10 Tooth, No. 80
19	4	22336	.50" UNC x 1.50" Socket Head Capscrew, Grade 8
	4	1228	.50" UNC Hex Nut
20	2	1872	.50" UNC X 1.50" Carriage Bolt
	2	1790	.50" UNC Serrated Flange Lock Nut

ASSEMBLY #12686

DIAGRAM 2 OF 2

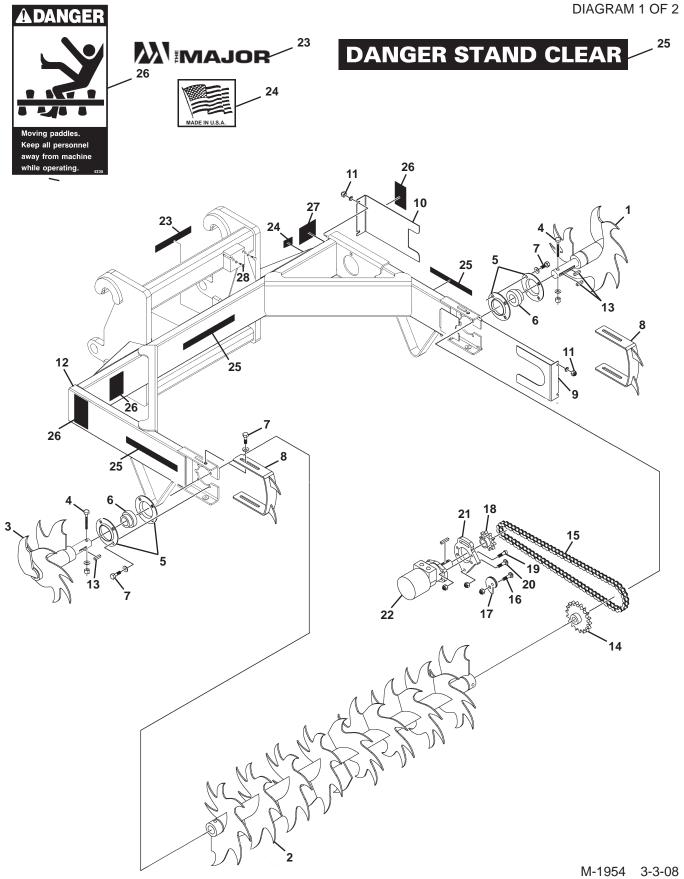


ASSEMBLY #12686

LIST 2 OF 2

<b>ITEM</b>	<u>QTY.</u>	<u>PART NO.</u>	DESCRIPTION
21	1	32847	Motor Mounting Plate
22	1	33200	Motor
	-	5662	Replacement Key
23	2	38187	Hose .62" x 80" 8MBo-10MBo
24	2	84928	Female Quick Coupler
25	2	32548	Female Coupler Cover
26	1	40502	Major Logo Decal, Medium
27	1	4338	Made in USA Decal
28	3	4105	Danger Stand Clear Decal
29	3	4235	Moving Paddles Danger Decal
30	1		Serial Number Identification Tag Location

ASSEMBLY #12745



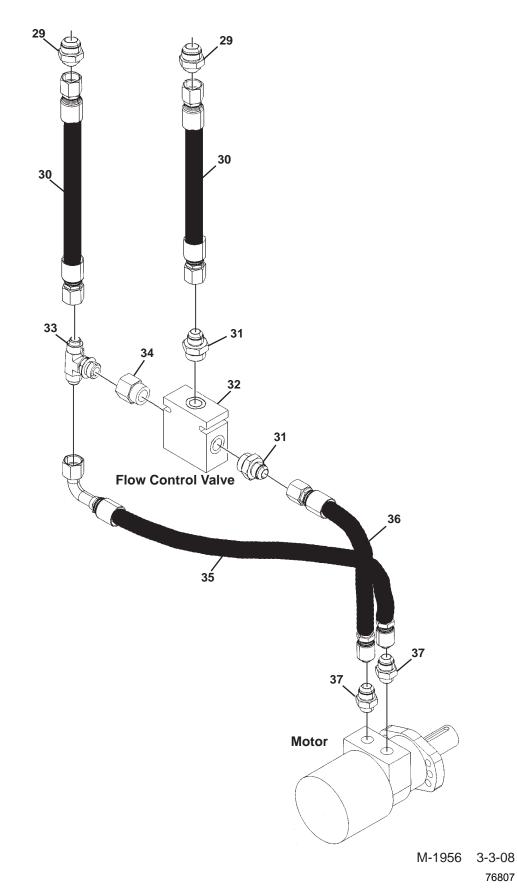
ASSEMBLY #12745

ITEM QTY. PART NO. DESCRIPTION Blade, Left End Blade, Center Blade, Right End .38" UNC x 3.00" Hex Capscrew .38" Flat Washer .38" UNC Deformed Lock Nut Flangette Set -**Replacement Grease Fitting Ball Bearing With Collar Replacement Set Screw** -.50" UNC x 1.00 Hex Capscrew .50" Hard Flat Washer Shoe (Depth Guide) Bottom Chain Cover Top Chain Cover .38" UNC Deformed Lock Nut .38" Flat Washer Silage Defacer Frame Square Key, .38" x 1.75" Sprocket, 18 Tooth, No. 80 Drive Chain, No. 80, 73 Pitches **Replacement Master Link** \_ .50" UNC X 1.50" Carriage Bolt .50" UNC Serrated Flange Lock Nut Cam Lock Sprocket, 10 Tooth, No. 80 .50" UNC x 1.50" Socket Head Capscrew, Grade 8 .50" UNC Hex Nut .50" UNC X 1.50" Carriage Bolt .50" UNC Serrated Flange Lock Nut Motor Mounting Plate Motor Replacement Key \_ Major Logo Decal, Medium Made in USA Decal Danger Stand Clear Decal Moving Paddles Danger Decal \_\_\_\_\_ Serial Number Identification Tag Location .31" UNC x 2.50" Hex Capscrew .31" Lock Washer .31" Flat Washer 

LIST 1 OF 2

#### SILAGE DEFACER ASSEMBLY #12745

DIAGRAM 2 OF 2



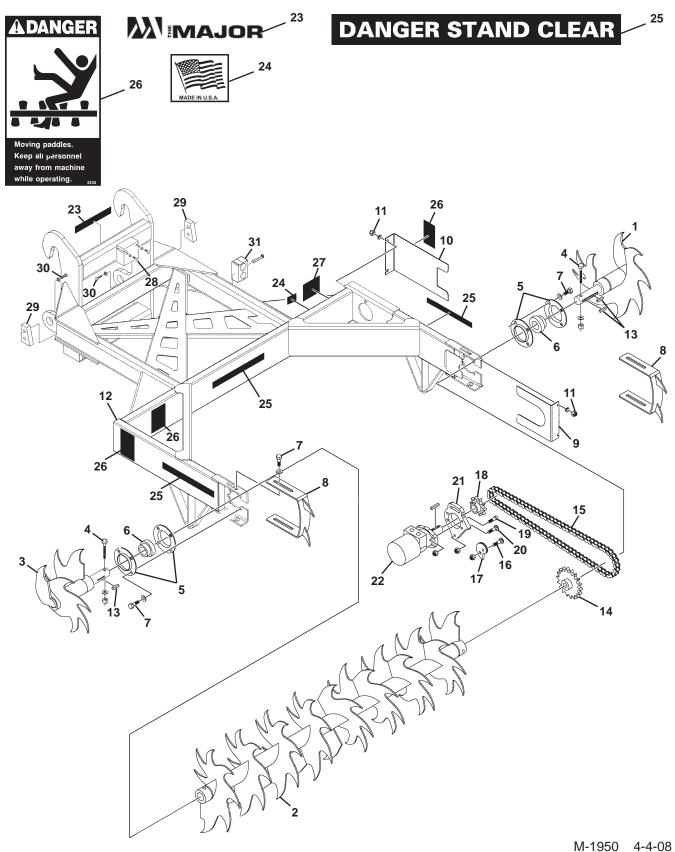
#### SILAGE DEFACER ASSEMBLY #12745

LIST 2 OF 2

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	DESCRIPTION
29	2	3419	Straight Connector, 12MBo-12MJ
30	2	37513	Hose .75" x 60" 12FJX-12FJX
31	2	3409	Straight Connector, 16MBo-12MJ
32	1	25314	Flow Control Valve
33	1	30350	Tee
34	1	30292	Straight Connector, 16MBo-12FBo
35	1	37658	Hose .75" x 42" 12FJX-12FJX90°
36	1	22571	Hose .75" x 34" 12FJX-12FJX
37	2	3286	Straight Connector, 10MBo-12MJ

ASSEMBLY #12805

DIAGRAM 1 OF 2



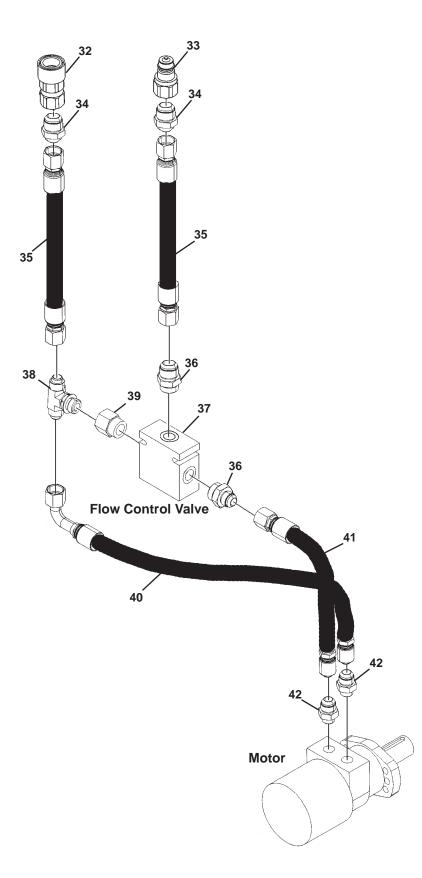
ASSEMBLY #12805

ITEM <u>QTY.</u> PART NO. DESCRIPTION Blade, Left End Blade, Center Blade, Right End .38" UNC x 3.00" Hex Capscrew .38" Flat Washer .38" UNC Deformed Lock Nut Flangette Set Replacement Grease Fitting -Ball Bearing With Collar **Replacement Set Screw** -.50" UNC x 1.00 Hex Capscrew .50" Hard Flat Washer Shoe (Depth Guide) **Bottom Chain Cover Top Chain Cover** .38" UNC Deformed Lock Nut .38" Flat Washer Silage Defacer Frame Square Key, .38" x 1.75" Sprocket, 18 Tooth, No. 80 Drive Chain, No. 80, 73 Pitches **Replacement Master Link** \_ .50" UNC X 1.50" Carriage Bolt .50" UNC Serrated Flange Lock Nut Cam Lock Sprocket, 10 Tooth, No. 80 .50" UNC x 1.50" Socket Head Capscrew, Grade 8 .50" UNC Hex Nut .50" UNC X 1.50" Carriage Bolt .50" UNC Serrated Flange Lock Nut Motor Mounting Plate Motor **Replacement Kev** \_ Major Logo Decal, Medium Made in USA Decal **Danger Stand Clear Decal** Moving Paddles Danger Decal Serial Number Identification Tag Location -----.31" UNC x 2.50" Hex Capscrew .31" Lock Washer .31" Flat Washer Stop Block .75" UNC x 2.25" Hex Capscrew, Grade 8 .75" Lock Washer **Double Hose Clamp** 

LIST 1 OF 2

ASSEMBLY #12805

DIAGRAM 2 OF 2



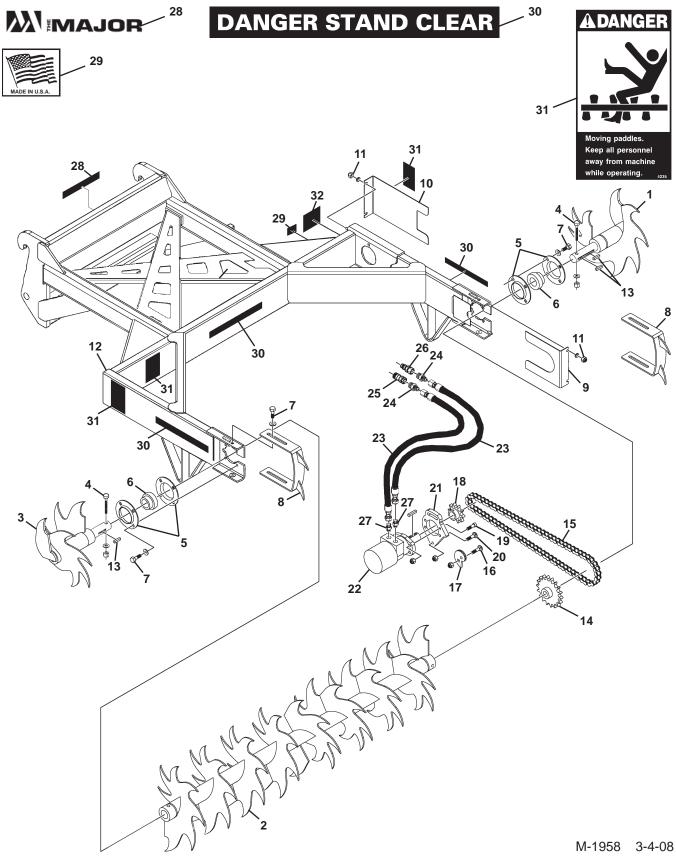
ASSEMBLY #12805

LIST 2 OF 2

<u>ITEM</u>	<u>QTY.</u>	PART NO.	DESCRIPTION
32	1	22518	Female Quick Coupler
33	1	22519	Male Quick Coupler
34	2	3419	Straight Connector, 12MBo-12MJ
35	2	37513	Hose .75" x 60" 12FJX-12FJX
36	2	3409	Straight Connector, 16MBo-12MJ
37	1	25314	Flow Control Valve
38	1	30350	Tee
39	1	30292	Straight Connector, 16MBo-12FBo
40	1	38000	Hose .75" x 82" 12FJX-12FJX90°
41	1	37912	Hose .75" x 74" 12FJX-12FJX
42	2	3286	Straight Connector, 10MBo-12MJ

ASSEMBLY #12871

DIAGRAM 1 OF 2



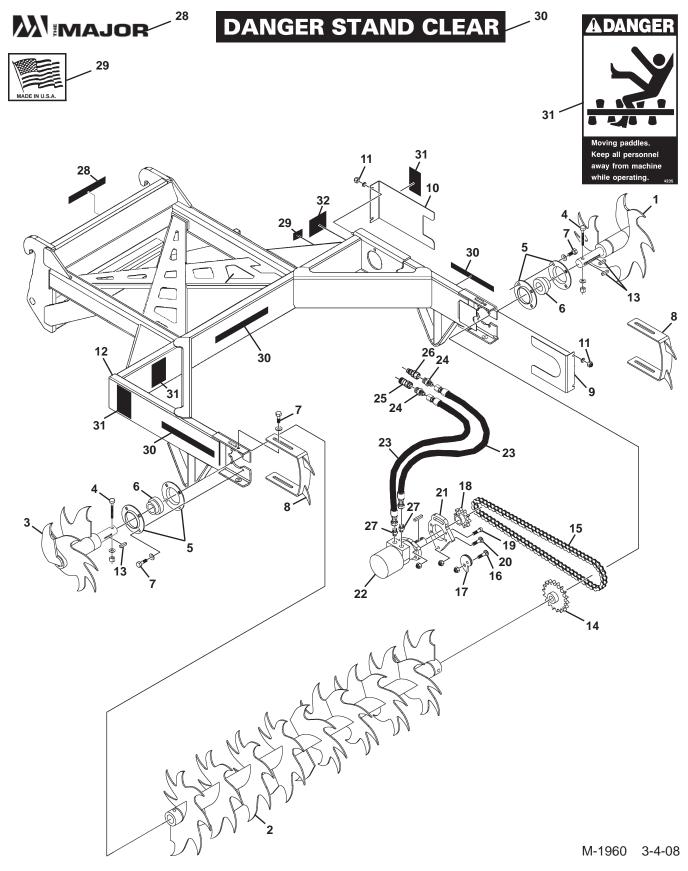
ASSEMBLY #12871

LIST 1 OF 2

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	DESCRIPTION
1	1	105447	Blade, Left End
2	1	105448	Blade, Center
3	1	105449	Blade, Right End
4	2	1051	.38" UNC x 3.00" Hex Capscrew
	2	1525	.38" Flat Washer
	2	1837	.38" UNC Deformed Lock Nut
5	2	89129	Flangette Set
	-	6616	Replacement Grease Fitting
6	2	89127	Ball Bearing With Collar
	-	1624	Replacement Set Screw
7	12	1088	.50" UNC x 1.00 Hex Capscrew
	12	1646	.50" Hard Flat Washer
8	2	33427	Shoe (Depth Guide)
9	1	15751	Bottom Chain Cover
10	1	32849	Top Chain Cover
11	4	1837	.38" UNC Deformed Lock Nut
	4	1514	.38" Flat Washer
12	1	106133	Silage Defacer Frame
13	3	105482	Square Key, .38" x 1.75"
14	1	32905	Sprocket, 18 Tooth, No. 80
15	1	32906	Drive Chain, No. 80, 73 Pitches
	-	53298	Replacement Master Link
16	1	1872	.50" UNC X 1.50" Carriage Bolt
	1	1790	.50" UNC Serrated Flange Lock Nut
17	1	32848	Cam Lock
18	1	33249	Sprocket, 10 Tooth, No. 80
19	4	22336	.50" UNC x 1.50" Socket Head Capscrew, Grade 8
	4	1228	.50" UNC Hex Nut
20	2	1872	.50" UNC X 1.50" Carriage Bolt
	2	1790	.50" UNC Serrated Flange Lock Nut

ASSEMBLY #12871

DIAGRAM 2 OF 2



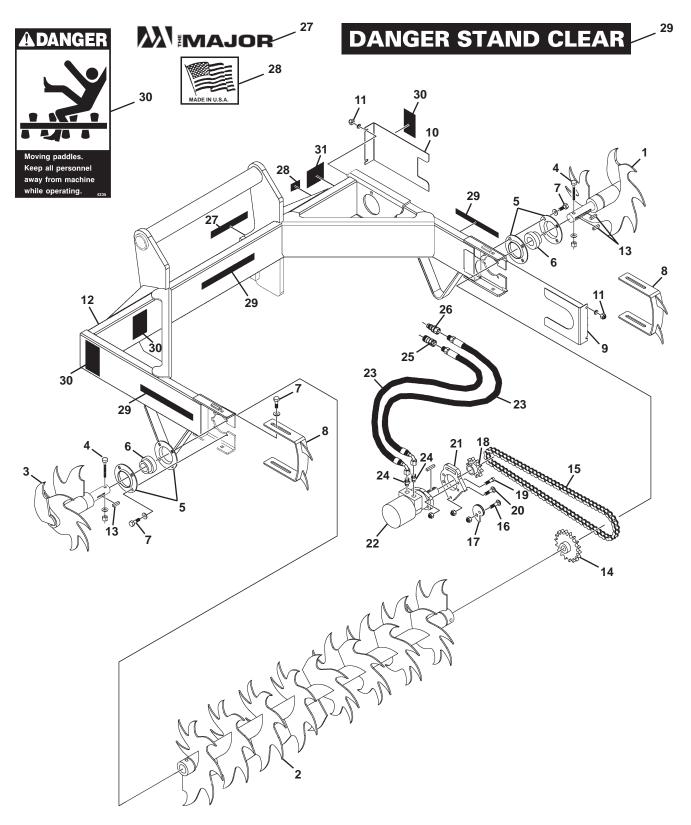
ASSEMBLY #12871

LIST 2 OF 2

<b>ITEM</b>	<u>QTY.</u>	PART NO.	DESCRIPTION
21	1	32847	Motor Mounting Plate
22	1	33200	Motor
	-	5662	Replacement Key
23	2	38235	Hose .62" x 72" 12FJX-12FJX
24	2	3419	Straight Connector, 12MBo-12MJ
25	1	22518	Female Quick Coupler
26	1	22519	Male Quick Coupler
27	2	3286	Straight Connector, 10MBo-12MJ
28	1	40502	Major Logo Decal, Medium
29	1	4338	Made in USA Decal
30	3	4105	Danger Stand Clear Decal
31	3	4235	Moving Paddles Danger Decal
32	1		Serial Number Identification Tag Location

ASSEMBLY #12894

DIAGRAM 1 OF 2



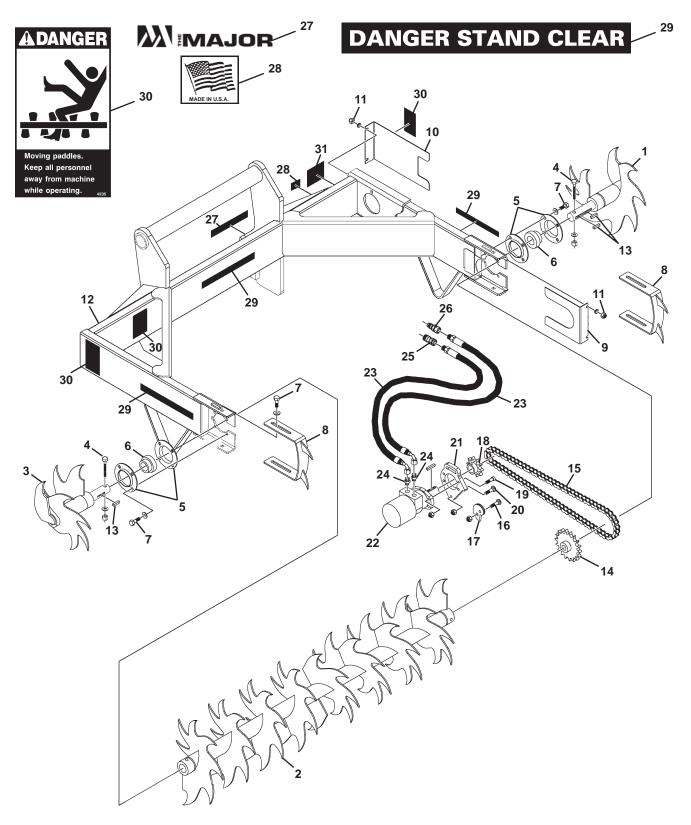
ASSEMBLY #12894

LIST 1 OF 2

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	DESCRIPTION
1	1	105447	Blade, Left End
2	1	105448	Blade, Center
3	1	105449	Blade, Right End
4	2	1051	.38" UNC x 3.00" Hex Capscrew
	2	1525	.38" Flat Washer
	2	1837	.38" UNC Deformed Lock Nut
5	2	89129	Flangette Set
	-	6616	Replacement Grease Fitting
6	2	89127	Ball Bearing With Collar
	-	1624	Replacement Set Screw
7	12	1088	.50" UNC x 1.00 Hex Capscrew
	12	1646	.50" Hard Flat Washer
8	2	33427	Shoe (Depth Guide)
9	1	15751	Bottom Chain Cover
10	1	32849	Top Chain Cover
11	4	1837	.38" UNC Deformed Lock Nut
	4	1514	.38" Flat Washer
12	1	15728	Silage Defacer Frame
13	3	105482	Square Key, .38" x 1.75"
14	1	32905	Sprocket, 18 Tooth, No. 80
15	1	32906	Drive Chain, No. 80, 73 Pitches
	-	53298	Replacement Master Link
16	1	1872	.50" UNC X 1.50" Carriage Bolt
	1	1790	.50" UNC Serrated Flange Lock Nut
17	1	32848	Cam Lock
18	1	33249	Sprocket, 10 Tooth, No. 80
19	4	22336	.50" UNC x 1.50" Socket Head Capscrew, Grade 8
	4	1228	.50" UNC Hex Nut
20	2	1872	.50" UNC X 1.50" Carriage Bolt
	2	1790	.50" UNC Serrated Flange Lock Nut

ASSEMBLY #12894

DIAGRAM 2 OF 2



ASSEMBLY #12894

LIST 2 OF 2

<u>ITEM</u>	<u>QTY.</u>	PART NO.	DESCRIPTION
21	1	32847	Motor Mounting Plate
22	1	33200	Motor
	-	5662	Replacement Key
23	2	38026	Hose .62" x 90" 10FJX90°-12MBo
24	2	3431	Straight Connector, 10MBo-10MJ
25	1	22518	Female Quick Coupler
26	1	22519	Male Quick Coupler
27	1	40502	Major Logo Decal, Medium
28	1	4338	Made in USA Decal
29	3	4105	Danger Stand Clear Decal
30	3	4235	Moving Paddles Danger Decal
31	1		Serial Number Identification Tag Location